00106

2007 (A)

Time : 4 Hrs.

D1G

B.Engg.Drwg.

Full Marks : 80
Pass Marks : 26

All questions from Group-A are compulsory.

xi-*A* d lHkh i'u vfuok;Z gA

Write answer of Group-A with pen and at one place.

xi-*A* l lHkh i'uk d mÙkj ,d gh txg iu l fy[kA

Answer ***any four*** *from Gr.-B,* and ***any three*** *from Gr-C.*

xi-*B* l fdUgh pkj rFkk xi-*C* l fdUgh rhu i'uk d mÙkj nA

Missing data if any may suitably be assumed.

;fn dkb vkdMk NVk gvk çrhr gk rk m l ;fDr lxr eku yA

Use HB pencil for Drawings.

Mkbx gr ,p&ch ifUly dk i;kx djA

The figures in right hand margin indicate full marks.

ik'o d vd i.kk d d lpd gA

P.T.O.

GROUP-A

1.(A) Choose the appropriate word/words given in the bracket : **1x10=10**

dk"Bd e fn; x; 'k©n@'k©nk e l lcl mi;Dr dk p;u dj %&

(i) Lower case letters may be written within ..... guidelines. (four / three)

vxjth d NkV v{kjk dk ..... ekxn'kd j[kkvk d chp fy[kk tk ldrk gA ¼pkj @ rhu½

(ii) An ellipse has ..... directrix / directrices. (one / two)

nh?kor e ..... Mk;jfDVDl gkrk @gkr gA

¼,d @ nk½

(iii) When a cone is cut by a plane inclined at an angle with vertical greater than semi-vertical angle of the cone, the section is ..... .

(a parabola / an ellipse)

fdlh 'kd dk mld v)&mnx dk.k l vf/kd dk.k l vour ry }kjk dkVu ij 'kd dh dkV ..... gkrh gA ¼ijoy; @ nh?kor½

(iv) Distance of a point on a curve from its directrix is equal to the distance from its focus. The curve must be ..... . (a parabola, hyperbola)

fdlh oØ ij fLFkr fdlh fcUn l mld Mk;jfVDl vkj Qkdl dh nfj;k cjkcj gA og oØ vo'; gh ..... gkxkA ¼ijoy; @ vfrijoy;½

(v) A straight line contained in both HP and VP. Top and front view of the line will be ..... .

(same / different)

,d ljy j[kk ,d ,l ry e fLFkr g tk ,p-ih- ¼{kfrt½ rFkk Hkh-ih- ¼mnx½ nkuk ryk ij yEcor gA j[kk dk ^Vki 0;* rFkk ^ÝV 0;* nkuk ..... gkxA

¼,d gh @ vyx½

(vi) Distance of a point from HP appears in ..... .

(plan / elevation)

,p-ih- l fdlh fcUn dh njh ..... e idV gkrh gA ¼lyku @ ,fyo'ku½

(vii) To obtain plan and elevation on a paper, the HP is always rotated so that second and fourth quadrant are always ..... .

(opened / closed)

fdlh dkxt ij lyku ,o ,fyo'ku dk n'kku d fy, ,p-ih- dk bl idkj ?kek;k tkrk g fd f}rh; ,o prFk ikn ge'kk .....A ¼[ky tk;@cUn gk tk;½

(viii) When a straight line is rotated by keeping its angle with HP constant, the height of the top end of the line from ground line ..... .

(changes / remains constant).

fdlh ljy j[kk d {kfrt ry l >dko dk fLFkj j[kr g, ?keku ij mld 'kh"k fcUn dh Åpkb vk/kkj&j[kk l ..... A ¼cny tkrh g @ fLFkj jgh g½

(ix) True length obtained by trapezoid method when produced intersects the front view or front view produced at ..... . (HT / VT)

leyEc prHkt fof/k l ikIr j[kk dh okLrfod yEckb vkj j[kk d ^,fyo'ku* dk c<ku ij feyk dVku ^fcUn* ..... gkrk gA ¼,pŒVhŒ@HkhŒVhŒ½

(x) Auxiliary front view is drawn on an ..... (auxiliary inclined plane / auxiliary vertical plane).

^vkDthyjh ÝV 0;* ..... ij ikIr gkrk gA ¼vkDthyjh vour ry @ vkDthyjh mnx ry½

P.T.O.

(B) Write True for correct statement and False for wrong statement : **1x10=10**

fuEufyf[kr okD;k d fy, lR; ;k vlR; tk mi;Dr gk] fy[k %

(i) Side view of an object is projected on a plane perpendicular to both HP and VP.

fdlh oLrq dk ^lkbM 0;* ,d ,l ry ij ikIr gkrk g tk {kfrt ,o mnx nkuk ryk d yEcor gkrk gA

(ii) Distance of a line in side view from the point of intersection of HP, VP and Profile plane is the shortest distance of the line from xy-line.

^{kfrt] mnx ,o ikQkby* ryk d dVku fcUn l fdlh j[kk d ^lkbM 0;* dh njh xy-j[kk l U;ure gkrh gA

(iii) In an isometric projection, horizontal edges of an object are horizontal.

vkblkefVd Mkbx e fdlh oLrq dk {kfrt fdukjk {kfrt gkrk gA

(iv) Development of lateral surfaces of a pyramid consists of a number of triangles in contact.

fdlh fijkfeM d ik'o ryk dk Moyie V vud lEifdr f=Hkt gkr gA

(v) An oblique plane is inclined to HP only.

,d vkfCyd rd {kfrt ,o mnx nkuk ryk l >dk gkrk gA

(vi) When both plan and elevation are equal and parallel to the xy-line, the line must be horizontal.

P.T.O.

fdlh j[kk dk lykU ,o ,fyo'ku nkuk j[kk dh okLrfod yEckb d cjkcj vkj xy-j[kk d lekukUrj gk rk j[kk vo'; gh {kfrt gkxhA

(vii) End view of a line is a point.

fdlh j[kk dk ^,M 0;* (End view) ,d fcUn gkrk gA

(viii) A cone has one generator only.

fdlh 'kd dk doy ,d gh ^itud* gkrk gA

(ix) Isometric view of a solid is drawn with true scale.

fdlh Bkl dk vkblkefVd ikt D'ku okLrfod ieku ij [khpk tkrk gA

(x) Development of lateral surfaces of a solid is used in a found shop.

fdlh oLr ¼Bkl½ d ik'o ryk dk Moyie V dk vui;kx <ykb ?kj e gkrk gA

GROUP-B

Draw ***any four*** questions :– **6x4=24**

fdUgh pkj i'uk dk cuk, % &

2. Two points P and Q are in HP. The point P is 25 mm in front of VP, while the point Q is behind VP. The distance between end projectors is 80 mm and the line joining their top views make an angle of 45º with xy-line. Find the distance of the point Q from the VP. **6**

nk fcUn P vkj Q ,d {kfrt ry e gA fcUn P mnx ry l 25 mm vkx g tcfd fcUn Q mnx ry d ihN gA nkuk fcUnvk dh i{kid j[kk, 80 mm dh njh ij gA mud ^Vki 0;* dk feyku okyh j[kk xy-j[kk l 45º dk dk.k cukrh gA fcUn Q dh mnx ry l njh Kkr djA

3. A point P is 20 mm in front of VP and 30 mm above HP. Draw its auxiliary top view on a plane perpendicular to the VP and inclined at 25º to the HP. **6**

P.T.O.

,d fcUn P mnx ry d 20 mm vkx ,o {kfrt ry l 30 mm Åij gA bl fcUn dk ^vkD thyjh Vki 0;* ,d ry ij cuk,] tk fd mnx ry d yEcor gk rFkk {kfrt ry l 25º ij >dk gkA

4. Construct a plain-scale of R.F. 1 : 4000 to show a single metre and long enough to measure upto 500 metre. Show on it a length of 353 metre. **6**

,d lyu Ldy cuk,] ftldk vkjE,QE 1:4000 gk tk ,d eh Vj dh njh dk eki ld vkj vf/kdre 500 eh Vj dh njh i< ldA bl ieku ij 353 eh Vj dk n'kk,A

5. Draw the projection of a hexagonal pyramid, base 25 mm side and axis 55 mm long, having its base in the HP and one of the edges of its base perpendicular to the VP. **6**

,d le"kVHk tk/kkj fijkfeM d vk/kkj d fdukj dh yEckb 25 mm rFkk v{k dh yEckb 55 mm gA bldk vk/kkj {kfrt ry e g vkj vk/kkj dk ,d fdukjk mnx ry d yEcor gA bl fLFkfr e fijkfeM dk iktD'kU l cuk,A

6. A cone, diameter of base 45 mm and axis 50 mm long is resting on its base on HP. It is cut by a section plane, perpendicular to the axis of the cone, bisecting the axis. Draw sectional plan of the cone. **6**

,d 'kd ftld vk/kkj dk 0;kl 45 mm rFkk v{k dh yEckb 50 mm g] viu vk/kkj ij {kfrt ry ij fLFkr gA bl ,d ,l ry l dkVk x;k g] tk 'kd d v{k ij yEcor g rFkk tk v{k dk lef}Hkkfttr djrk gA 'kd dk lD'kuy lyku cuk,A

7. Construct a parabola of base 60 mm and rise 50 mm. **6**

,d ijoy; cuk,] ftldk vk/kkj 60 mm rFkk Åpkb 50 mm gA

GROUP-C

Answer ***any three*** questions :– **12x3=36**

fdUgh rhu i'uk d mÙkj n %&

8. A line AB 80 mm long and lies in a plane perpendicular to VP and inclined at an angle of 45º with HP. The front view

of the line is 60 mm long. The end A is in the VP and 25 mm in above the HP. Draw projections of the line and find

(a) inclinations with the reference planes

(b) its traces. **12**

,d 80 mm yEch ljy j[kk ,d ,l ry ij i.k:i l fLFkr g tk mnx ry ij yEcor rFkk {kfrt ry l 45º ij >dh gA j[kk d ^ÝV 0;* dh yEckb 60 mm gA j[kk dk ,d Nkj A mnx ry e g rFkk {kfrt ry l 25 mm Åij gA j[kk d i{kik dk cuk, rFkk Kkr dj &

(a) fun'k ryk l cu dk.k

(b) j[kk d Vll (Traces)

9. A cube of 40 mm long edges is resting in HP on one of its faces with a vertical face inclined at 30º to the VP. It is cut by a section plane perpendicular to the HP and inclined at 60º to the VP the section plane cuts the face which is inclined at 60º with the VP, in two equal halves. Draw the sectional front view and true shape of the section. **12**

,d ?ku d fdukj dh yEckb 40 mm g vkj ;g {kfrt ry e viu ,d Qyd ij bl rjg iMk g fd ml dk ,d mnx Qyd mnx ry l 30º dk dk.k cukrk gA ,d dkVu okyk ry tk fd {kfrt ry d yEcor g vkj tk mnx ry l 60º ij >dk g] ?ku dk bl idkj dkVrk g fd ?ku dk og Qyd tk mnx l 60º ij >dk g] lef}Hkkftr gkrk gA ?ku dk lD'kuy ,fyo'ku ,o ^dkV* dk okLrfod vkdkj cuk,A

10. Draw development of lateral surfaces of a pentagonal pyramid, base 20 mm side and axis 50 mm long, resting on its base in the HP keeping one of the edges of its base parallel to the VP. A section plane perpendicular to the VP and inclined at 30º with the HP, cuts its axis 20 mm above the base. Assume lower portion of the pyramid removed. **12**

,d leiHkt fijkfeM dh ik'o lrgk dk MoyoeV cuk,, ftl d vk/kkj dk ,d fdukjk 20 mm rFkk v{k 50 mm yck g] rFkk ;g

viu vk/kkj ij {kfrt ry e [kMk g rkfd bld vkèkkj dk ,d fdukjk mnx ry d lekuUrj gkA ,d dkVuokyk ry tk mnxry d yEcor g rFkk {kfrt ry l 30º ij >dk g] bl fijkfeM dk vk/kkj l 20 mm Åij dkVrk gA fupy fgLl dk gVk;k gvk le>A

11. Draw plan, elevation and isometric projection of a sphere of radius 20 mm resting centrally on the top surface of a rectangular prism of length, width and height 50 mm, 45 mm and 15 mm respectively. **12**

,d xkyk ft ldh f=T;k 20 mm g] ,d vk;rkdkj fiTe dh Åijh lrg d Bhd chp e fLFkr gA fiTe dh yEckb] pkMkb ,o Åpkb Øe'k% 50 mm, 45mm ,o 15mm gA blh fLFkfr e lyku] ,fyo'ku ,o vkblkefVd ikt D'kUl cuk,A

12. A hexagonal pyramid, base 25 mm side and axis 50 mm long is resting on one of the edges of its base in the HP and parallel to the VP. Draw its projections and side view also. **12**

,d "kVHkt k/kkj fijkfeM d vk/kkj dk ,d fdukjk 25 mm vkj v{k 50 mm gA ;g vk/kkj d ,d fdukj ij {kfrt ry e fLFkr g rFkk ;g fdukjk mnx ry d lekuUrj Hkh gA bl fLFkfr e i{kik dk cuk, rFkk lkFk gh ^lkbM 0;* Hkh cuk,A

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